This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

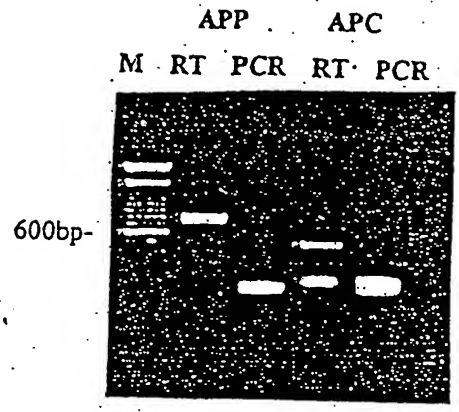
Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

A



B

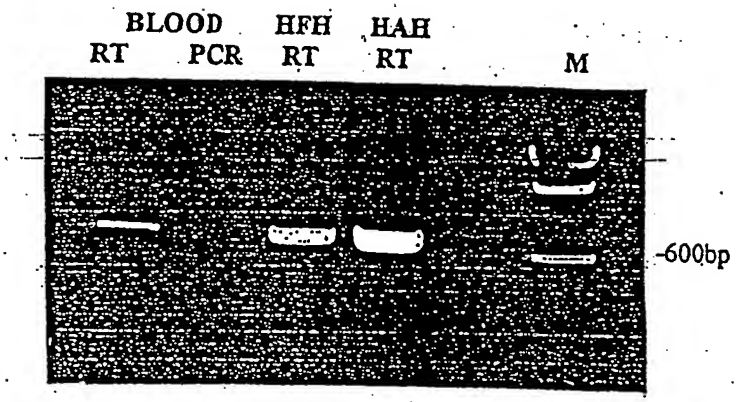


FIGURE 1

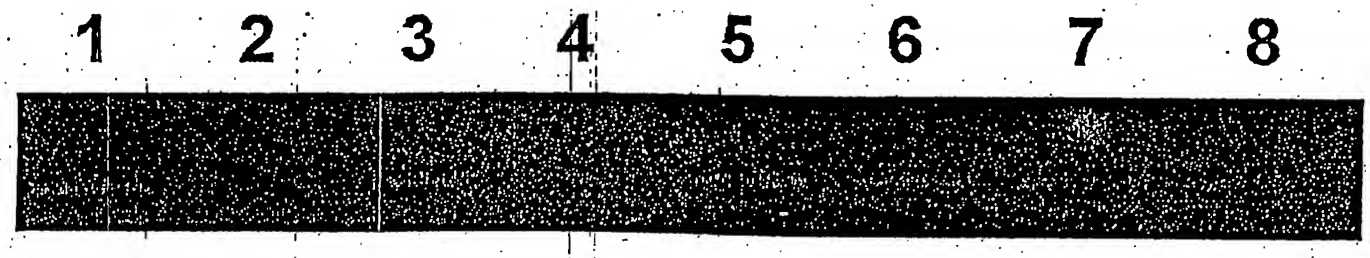


FIGURE 2

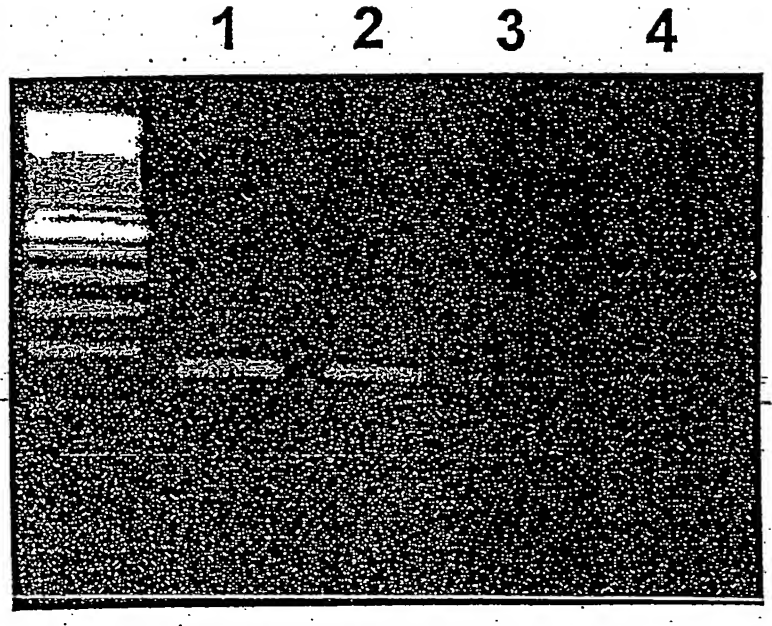


FIGURE 3

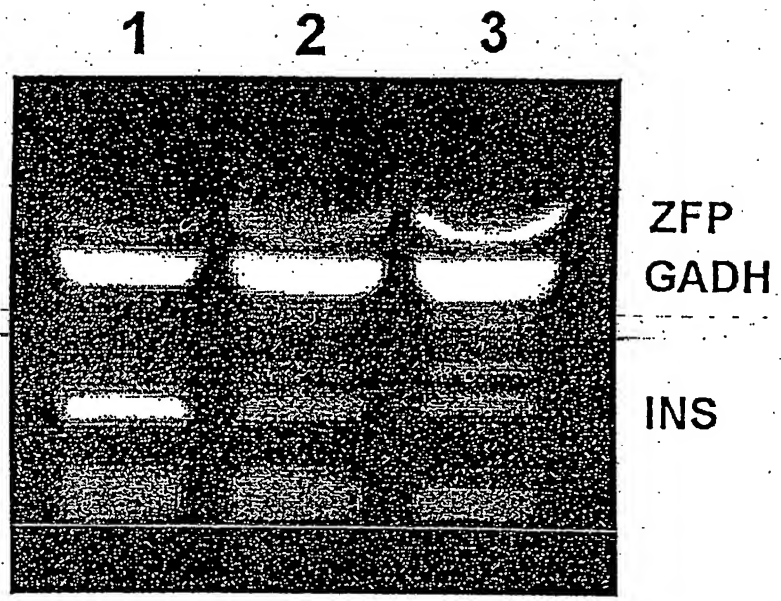
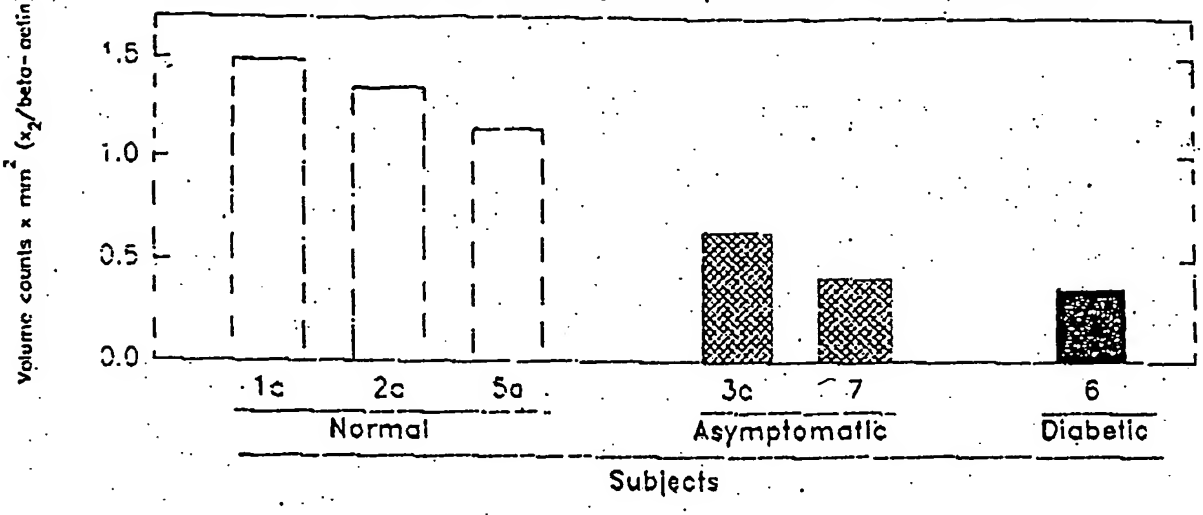
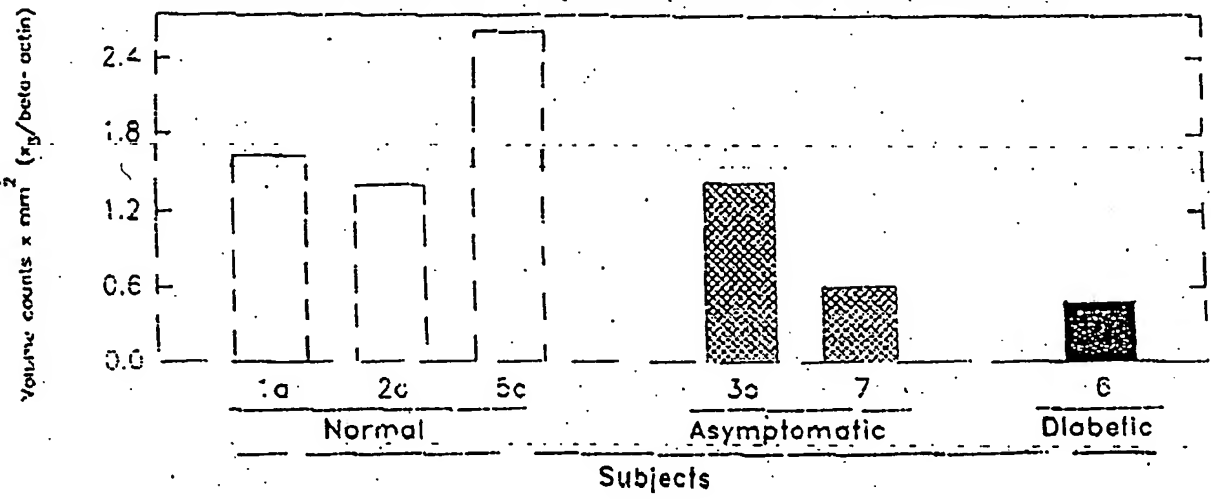


FIGURE 4

A. Standardized levels of Insulin gene expressed in a drop of blood.



B. Standardized levels of ZFP gene expressed in a drop of blood.



C. Standardized levels of insulin gene expressed in each fractionated cell from whole blood.

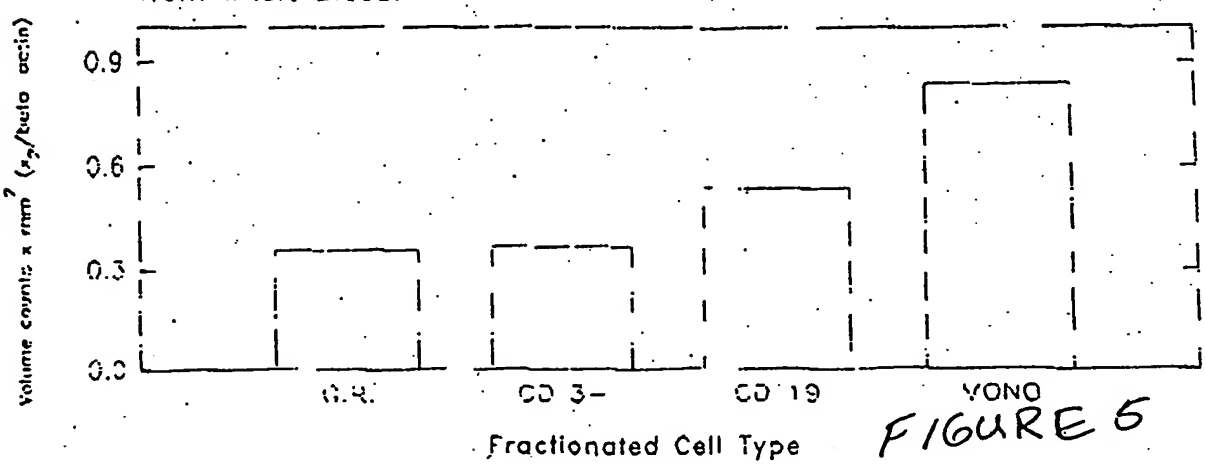


FIGURE 6

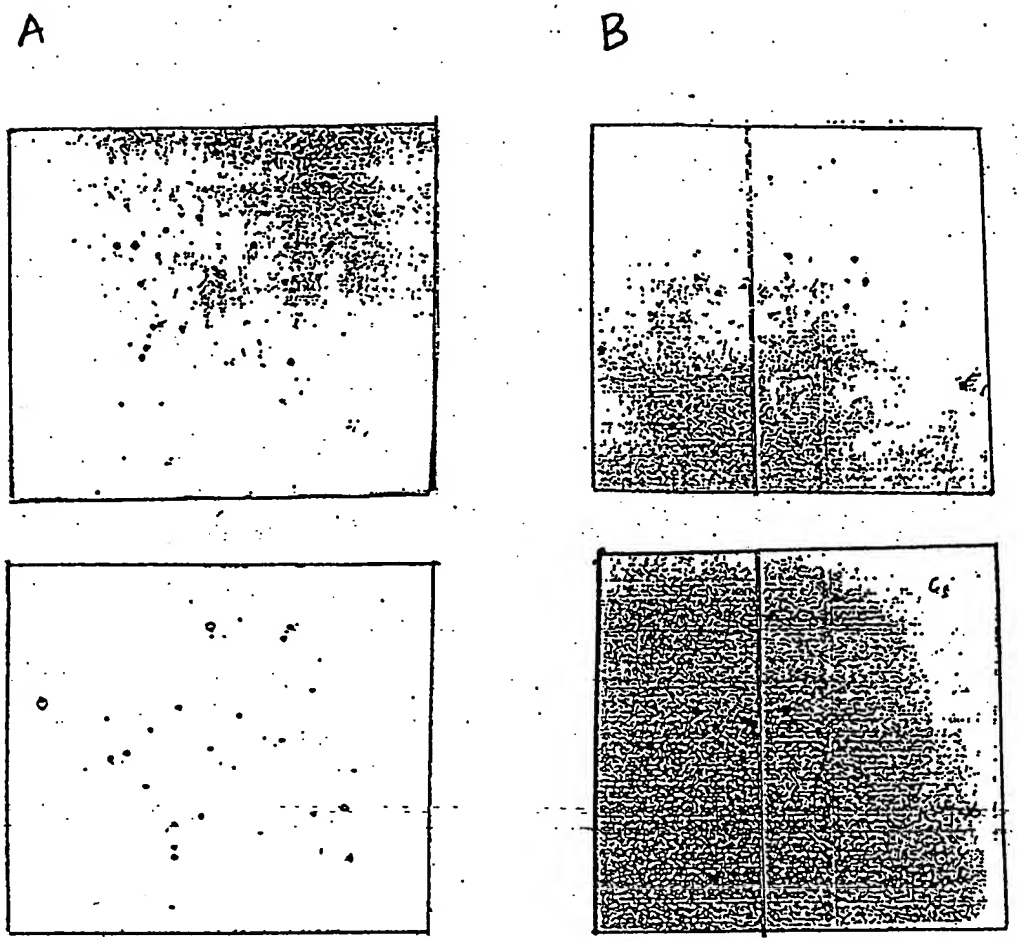
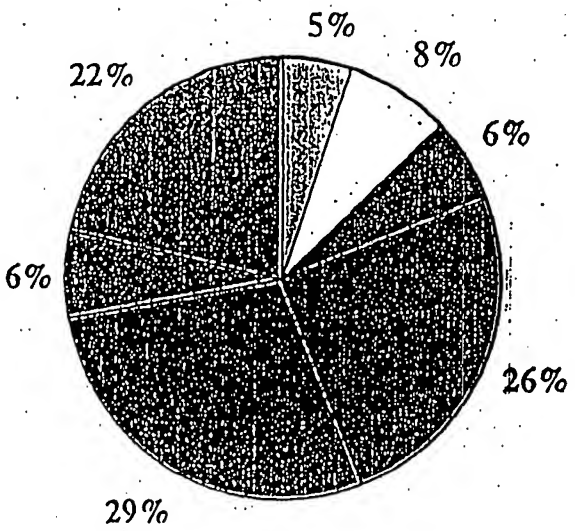


FIGURE 6

Total :13, 283 ESTs
Known: 6,283
Mitochondrial: 405
Ribosome: 498
Repeat: 868
Mis. : 156
Novel: 2,718

Human Blood



- Cell Division
- Cell Signalling/Communication
- Cell structure/Motility
- Cell/organism defense
- Gene/Protein expression
- Metabolism
- Unclassified

Human Fetal Heart

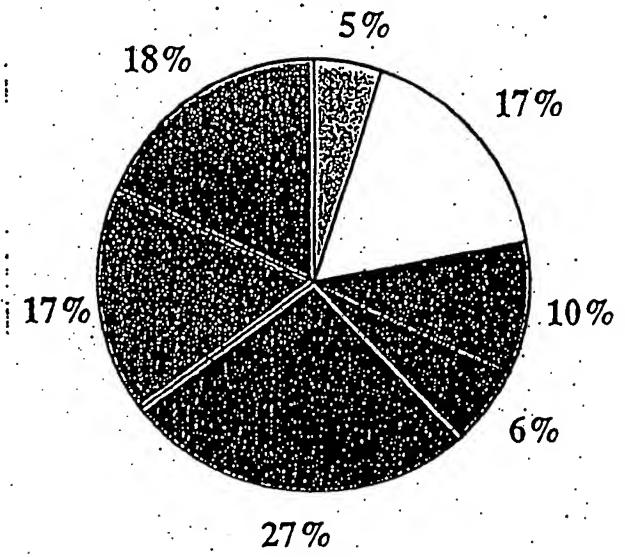
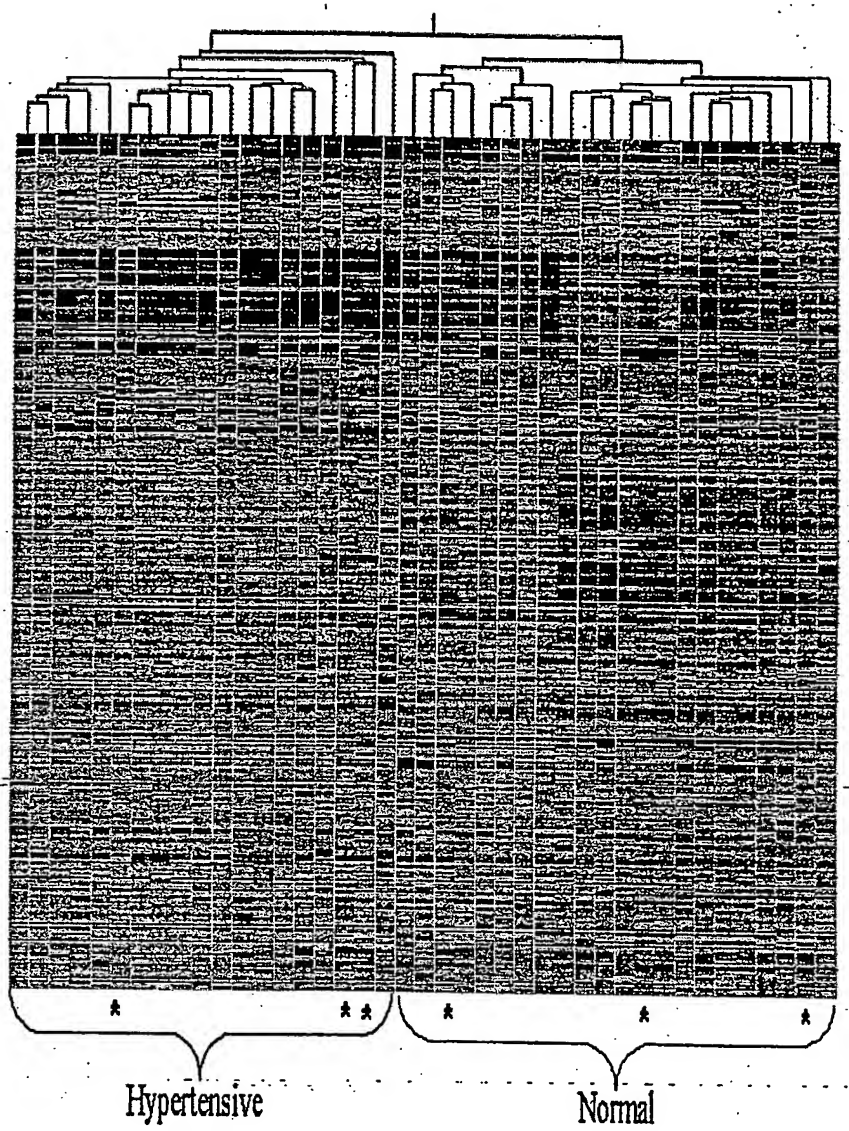


FIGURE 7

Figure 8

Hypertension



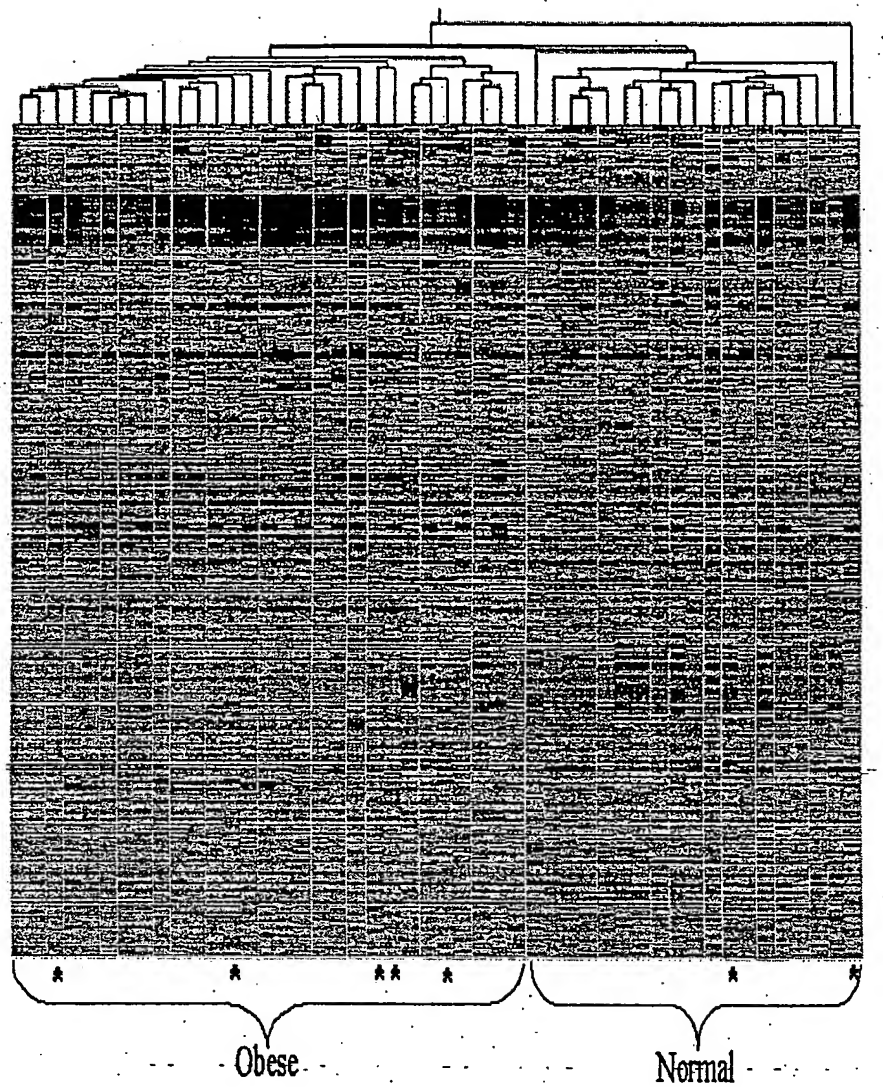
Hypertensive: 19

Normal: 22

Differentially Expressed Genes ($p<0.05$): 861

Figure 9

Obesity



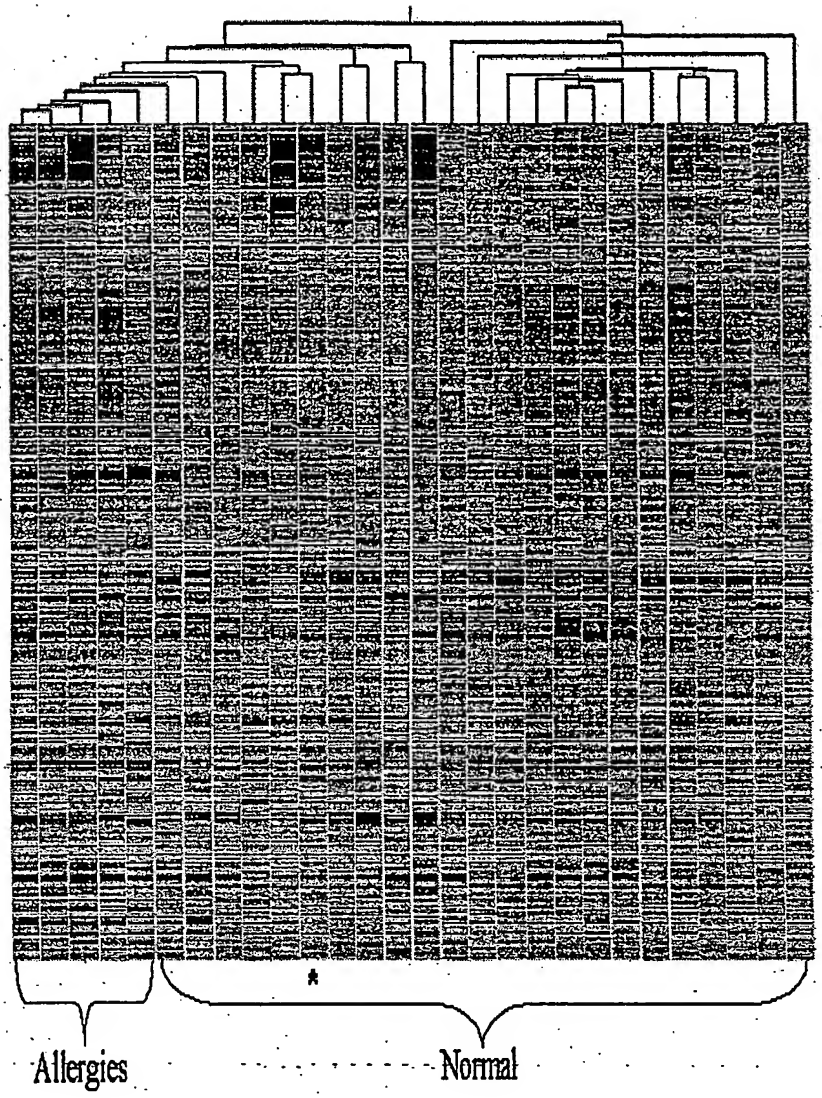
Obese: 25

Normal: 22

Differentially Expressed Genes ($p<0.05$): 913

Figure 10

Allergies



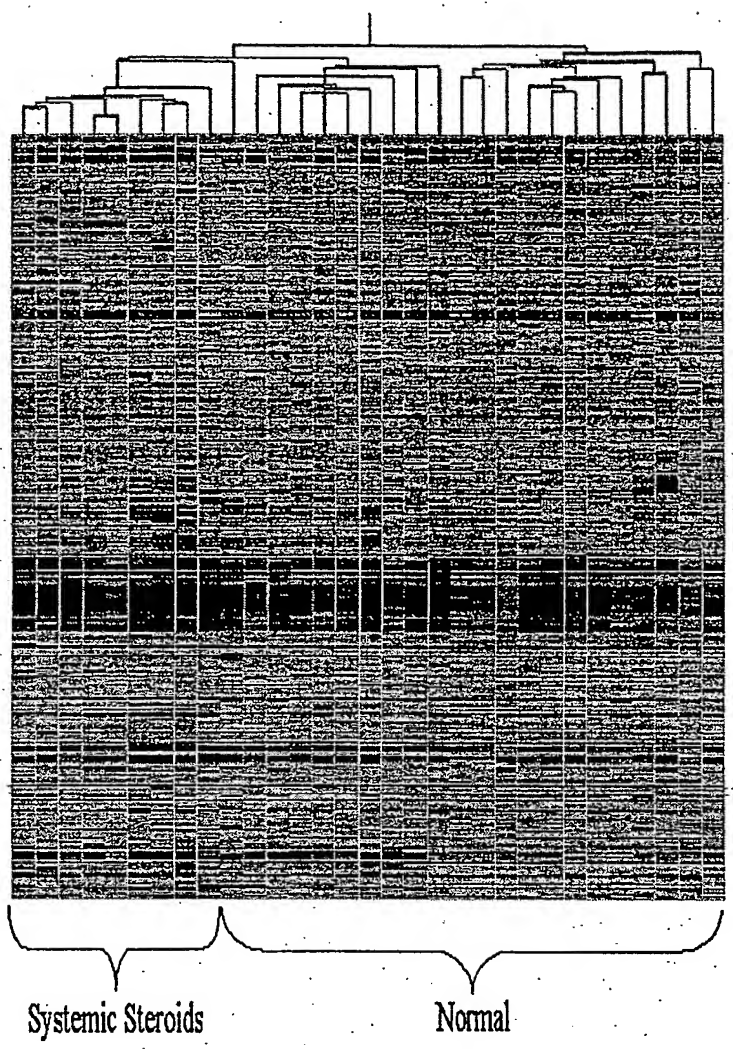
Allergies: 6

Normal: 22

Differentially Expressed Genes ($p<0.05$): 633

Figure 11

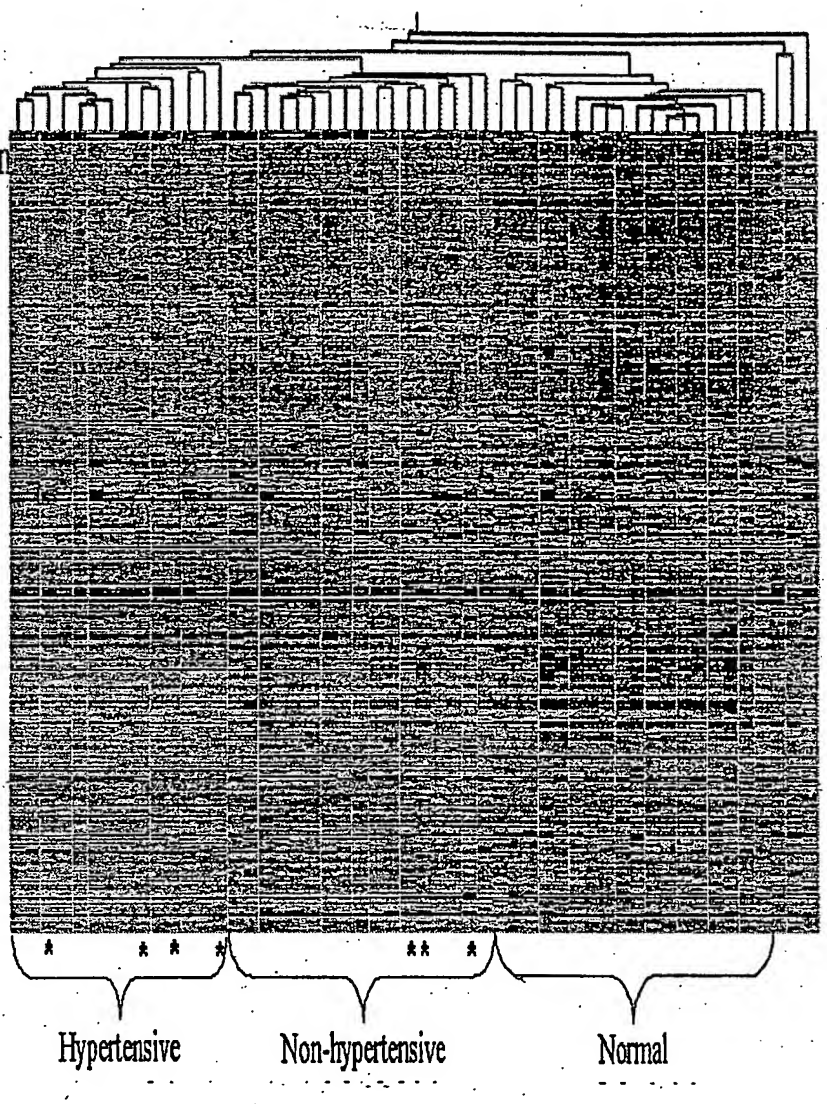
Systemic Steroids



Systemic Steroids: 9
Normal: 22
Differentially Expressed Genes ($p<0.05$): 605

Figure 12

Hypertension



Hypertensive: 10

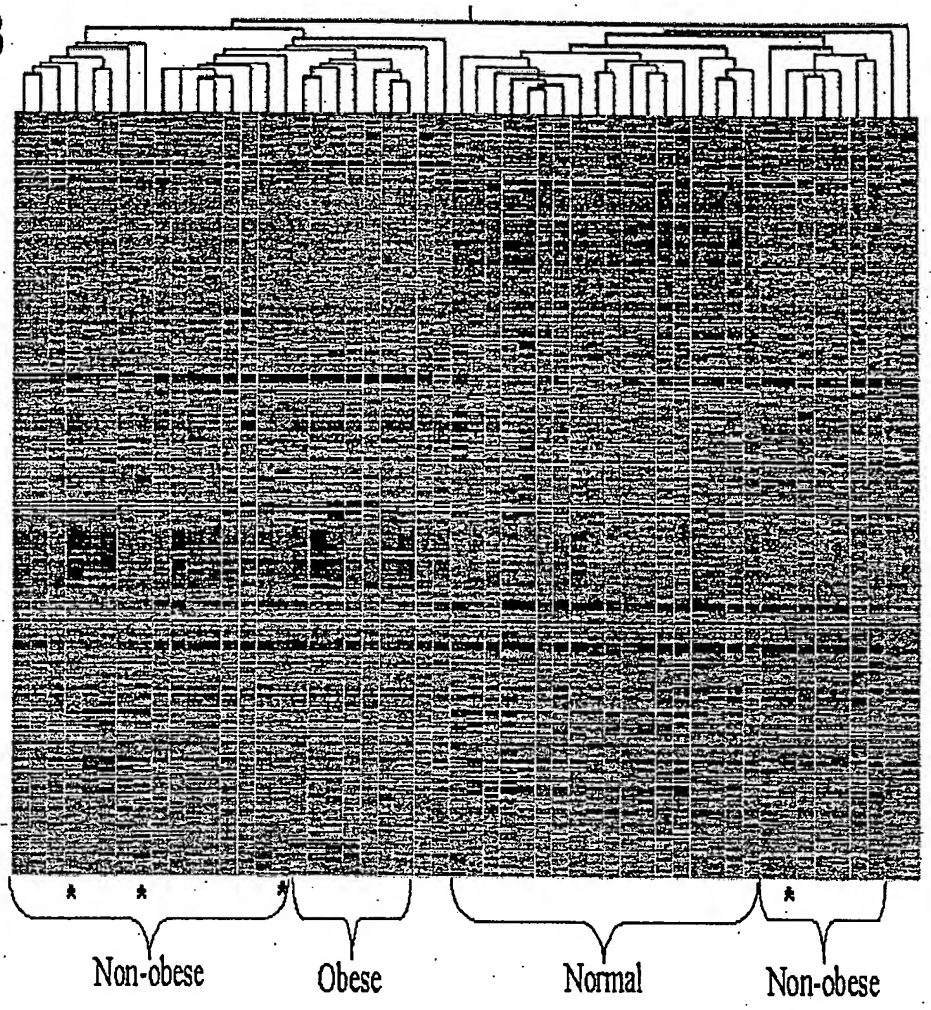
Non-hypertensive: 18

Normal: 24

Differentially Expressed Genes ($p<0.05$): 1,993

Figure 13

Obesity



Obese: 8

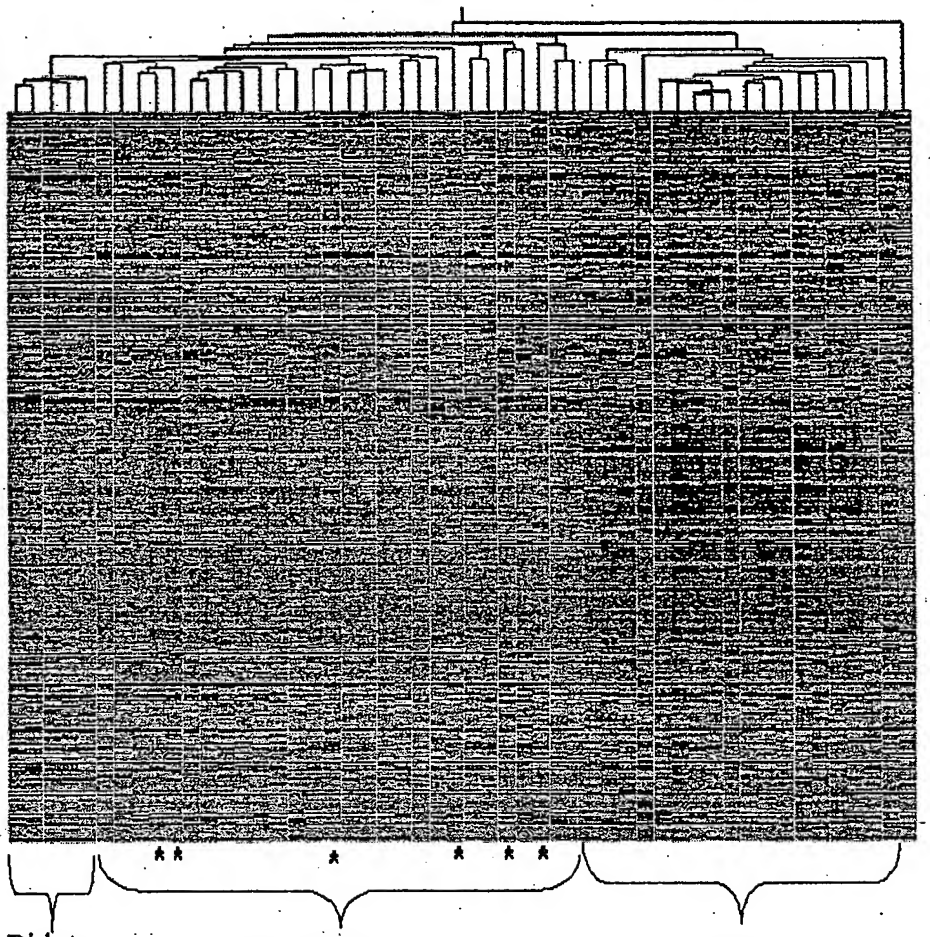
Non-obese: 20

Normal: 24

Differentially Expressed Genes ($p<0.05$): 1,147

Figure 14

Diabetes Type 2



Diabetes Type 2: 5

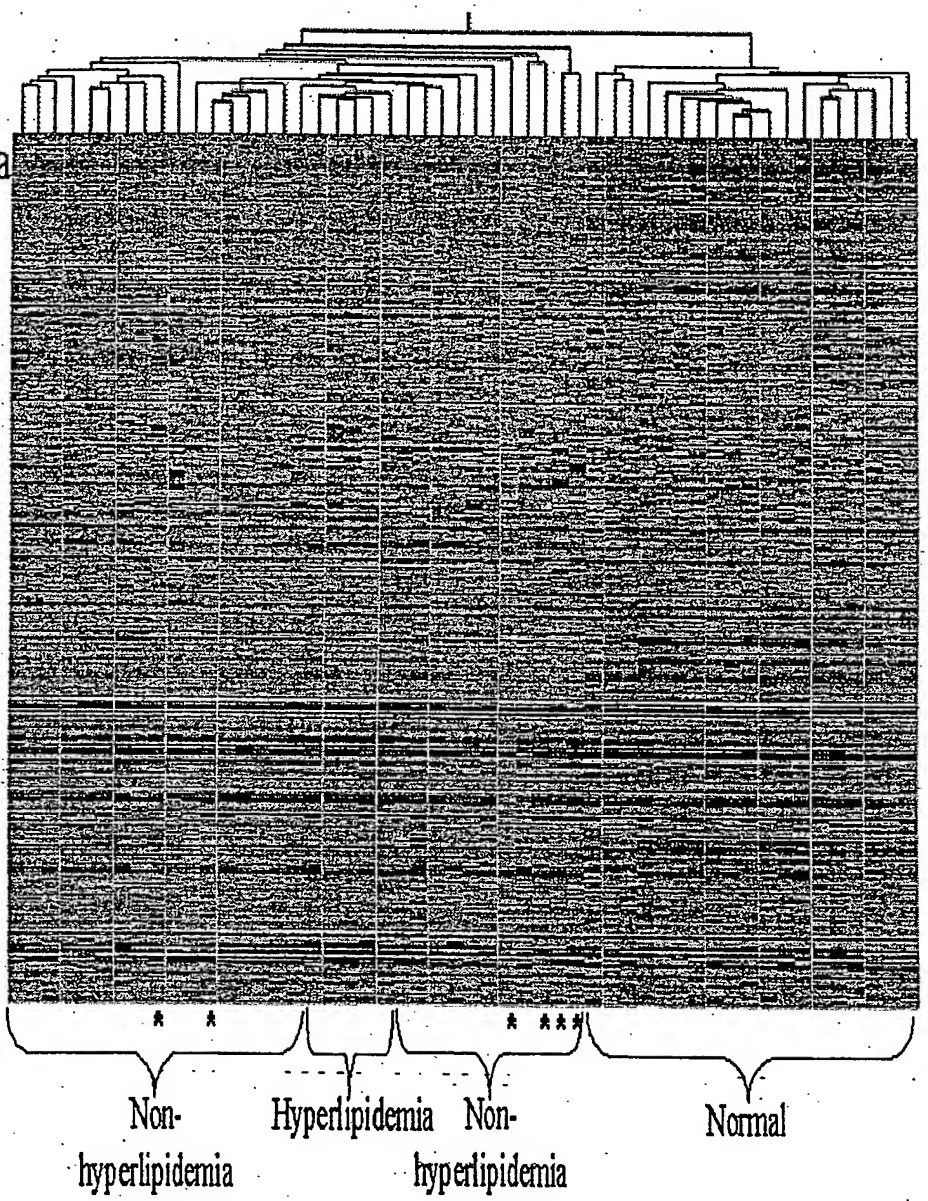
Non-diabetes Type 2: 23

Normal: 24

Differentially Expressed Genes ($p<0.05$): 915

Figure 15

Hyperlipidemia



Hyperlipidemia: 7

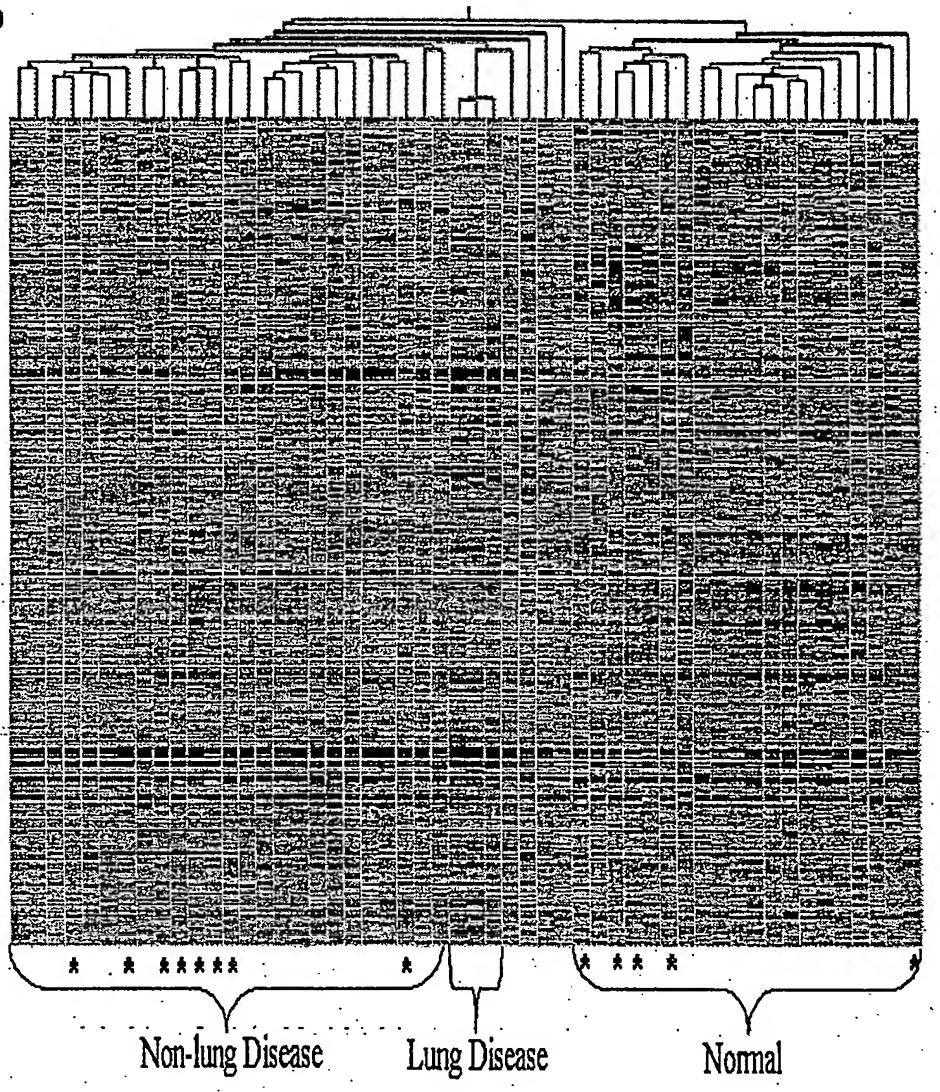
Non-hyperlipidemia: 21

Normal: 24

Differentially Expressed Genes ($p<0.05$): 1,022

Figure 16

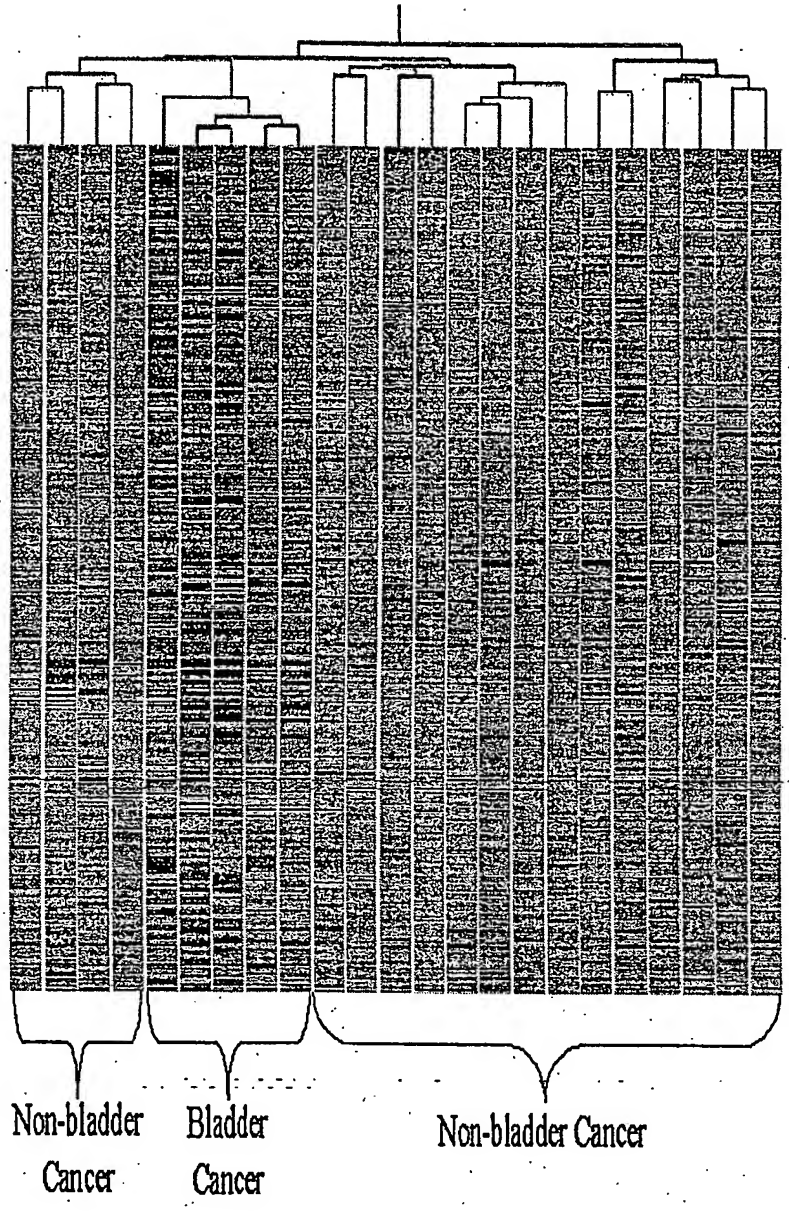
Lung Disease



Lung Disease: 3
Non-lung Disease: 25
Normal: 24
Differentially Expressed Genes ($p<0.05$): 596

Figure 17

Bladder Cancer



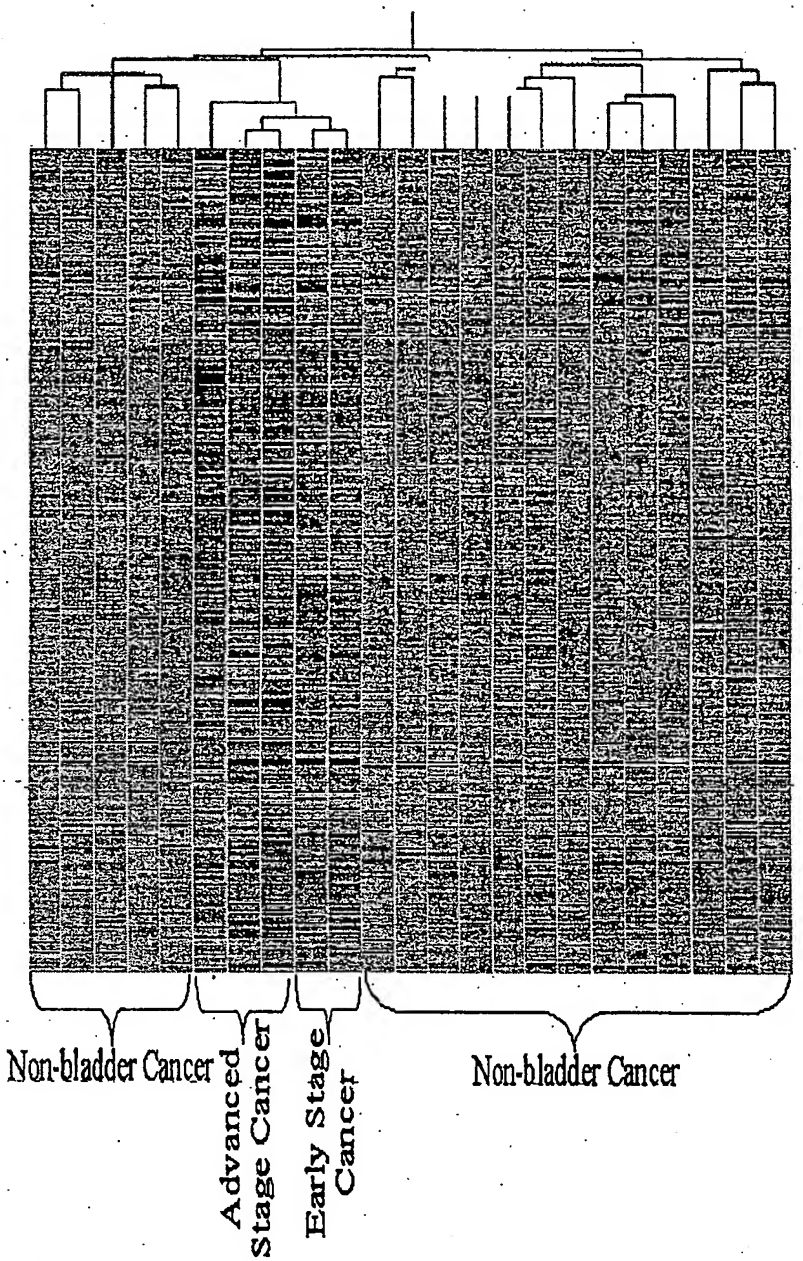
Bladder Cancer: 5

Non-bladder Cancer: 18

Differentially Expressed Genes ($p<0.05$): 4,228

Figure 18

Bladder Cancer



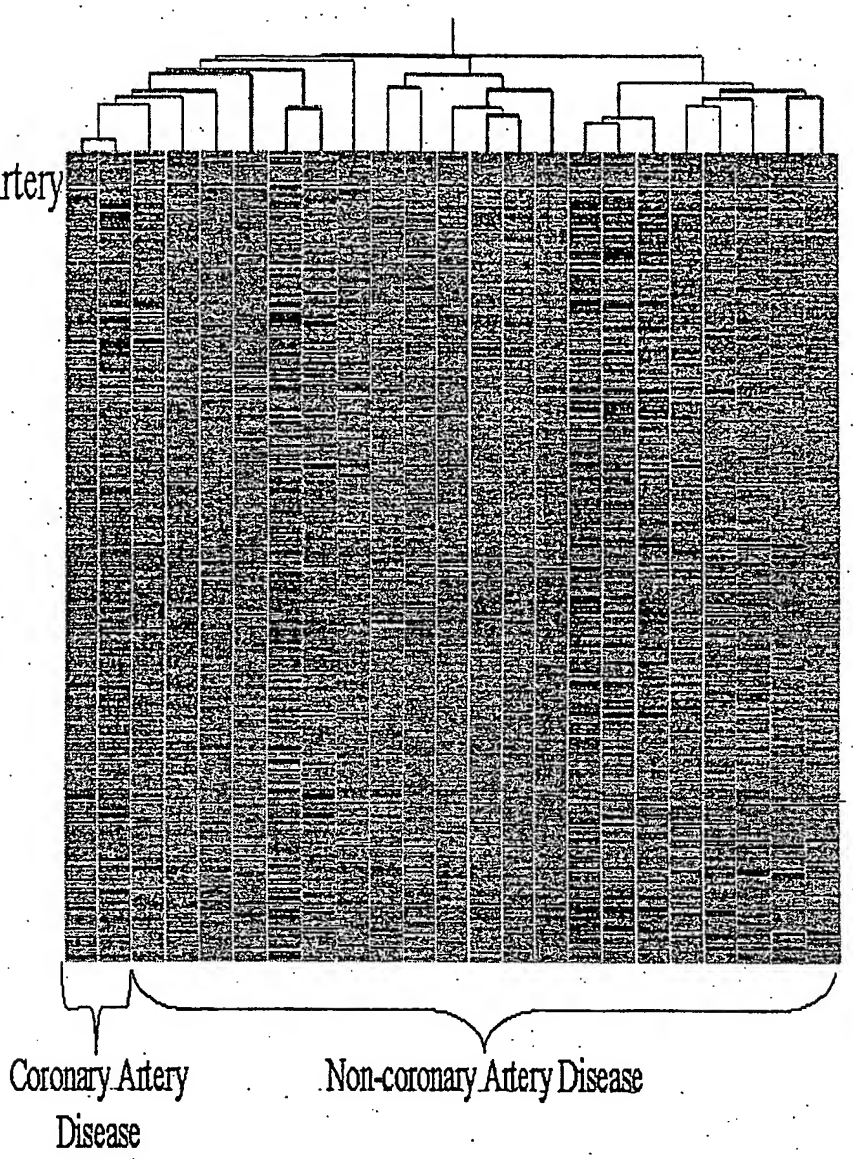
Bladder Cancer: 3 advanced stage, 2 early stage

Non-bladder Cancer: 18

Differentially Expressed Genes ($p<0.05$): 3,518

Figure 19

Coronary Artery Disease



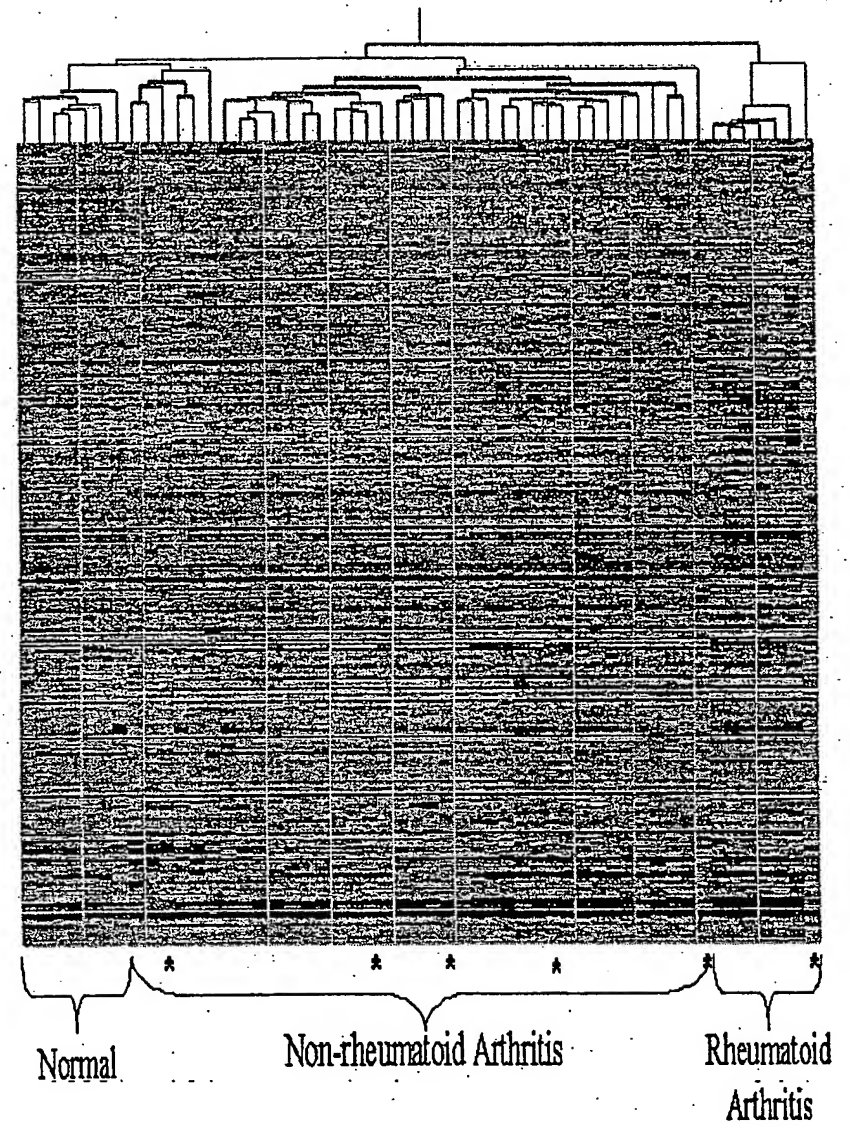
Coronary Artery Disease: 2

Non-coronary Artery Disease: 21

Differentially Expressed Genes ($p<0.05$): 967

Figure 20

Rheumatoid Arthritis



Rheumatoid Arthritis: 6

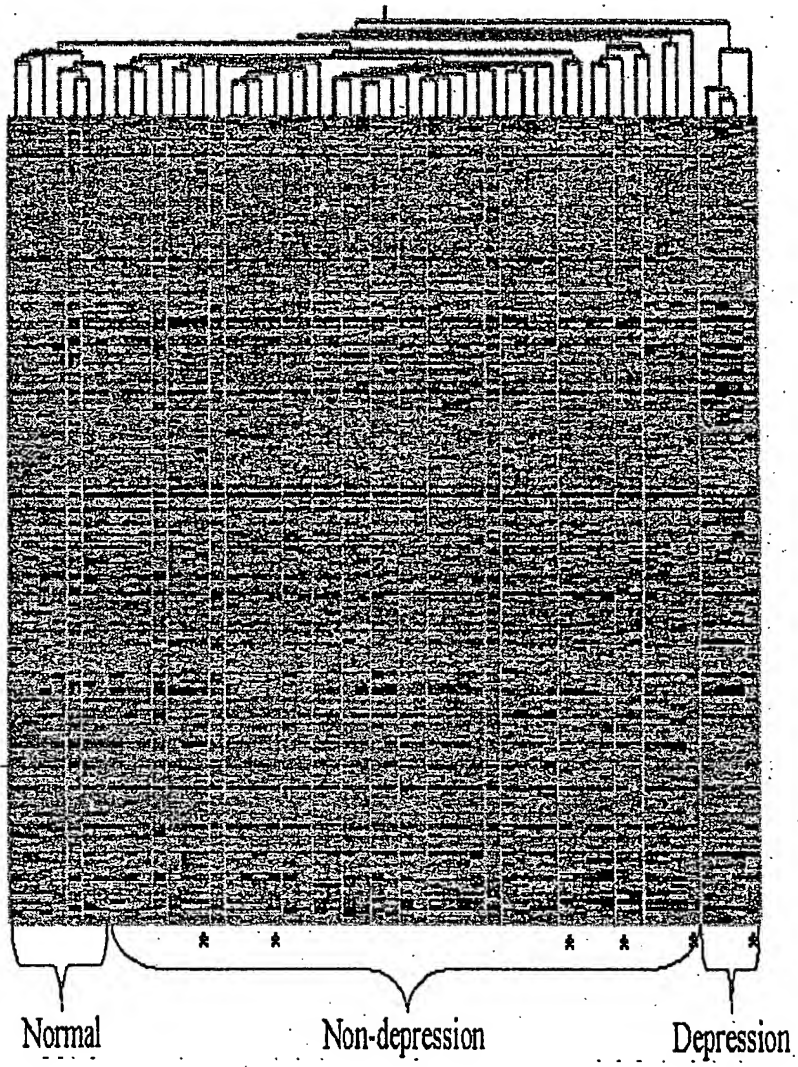
Non-rheumatoid Arthritis: 34

Normal: 12

Differentially Expressed Genes ($p<0.05$): 2,068

Figure 21

Depression



Depression: 3

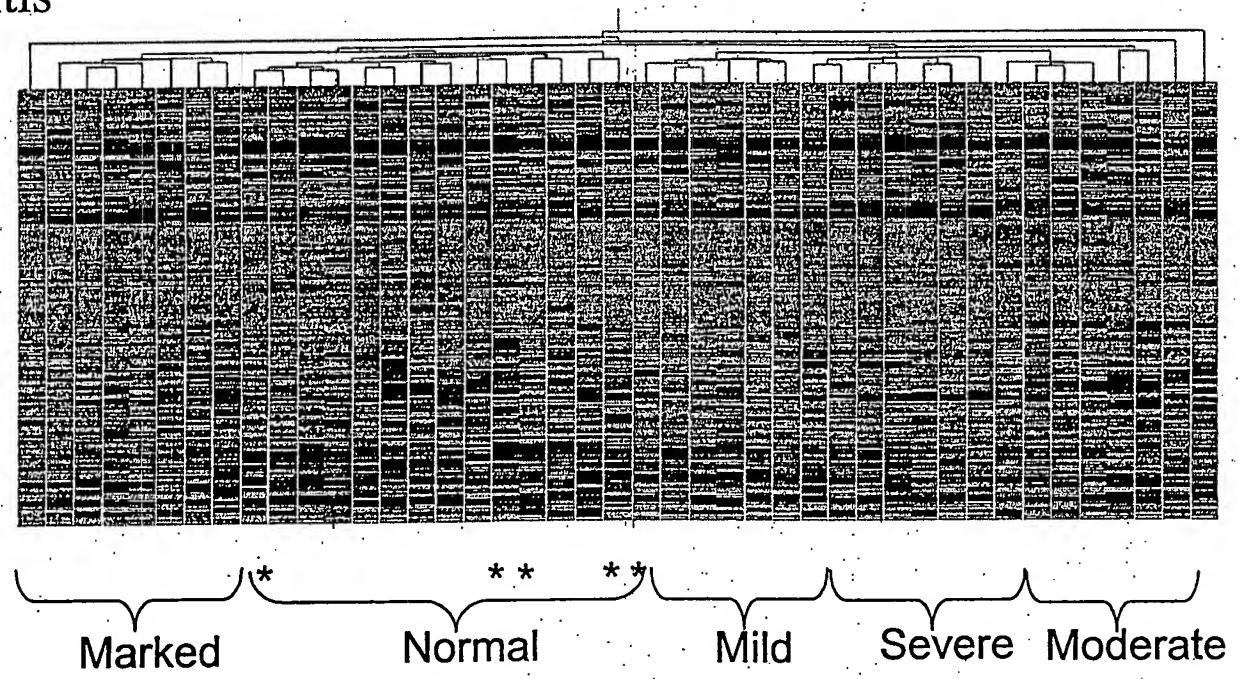
Non-depression: 37

Normal: 12

Differentially Expressed Genes ($p<0.05$): 941

Figure 22

Osteoarthritis



Osteoarthritis: 9 mild, 8 moderate, 8 marked, 9 severe
Normal: 9
Differentially Expressed Genes ($p<0.05$): 300

Figure 23 RT-PCR of overexpressed genes in CAD peripheral blood cells identified using microarray experiments, including PBP, PF4 and F13A.

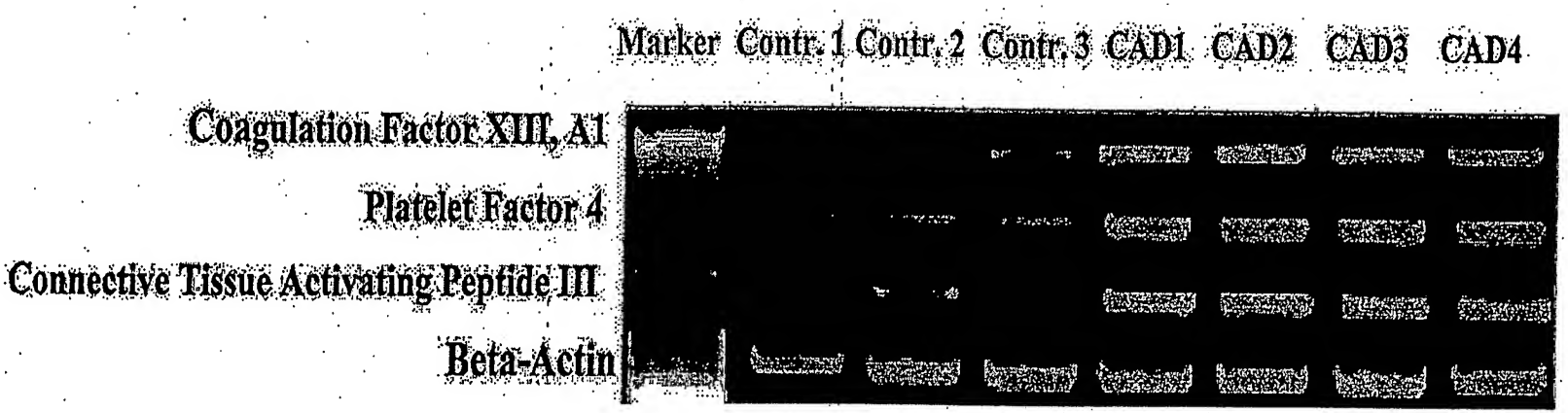


Figure 24

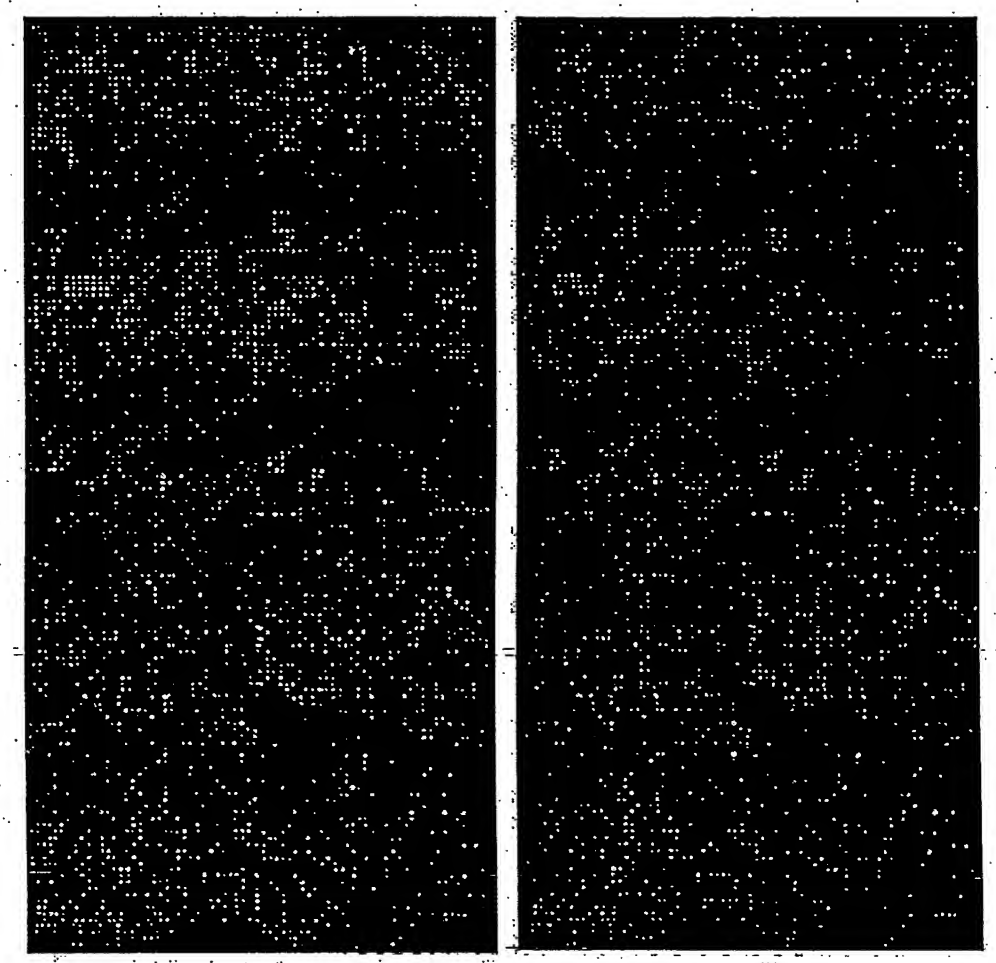
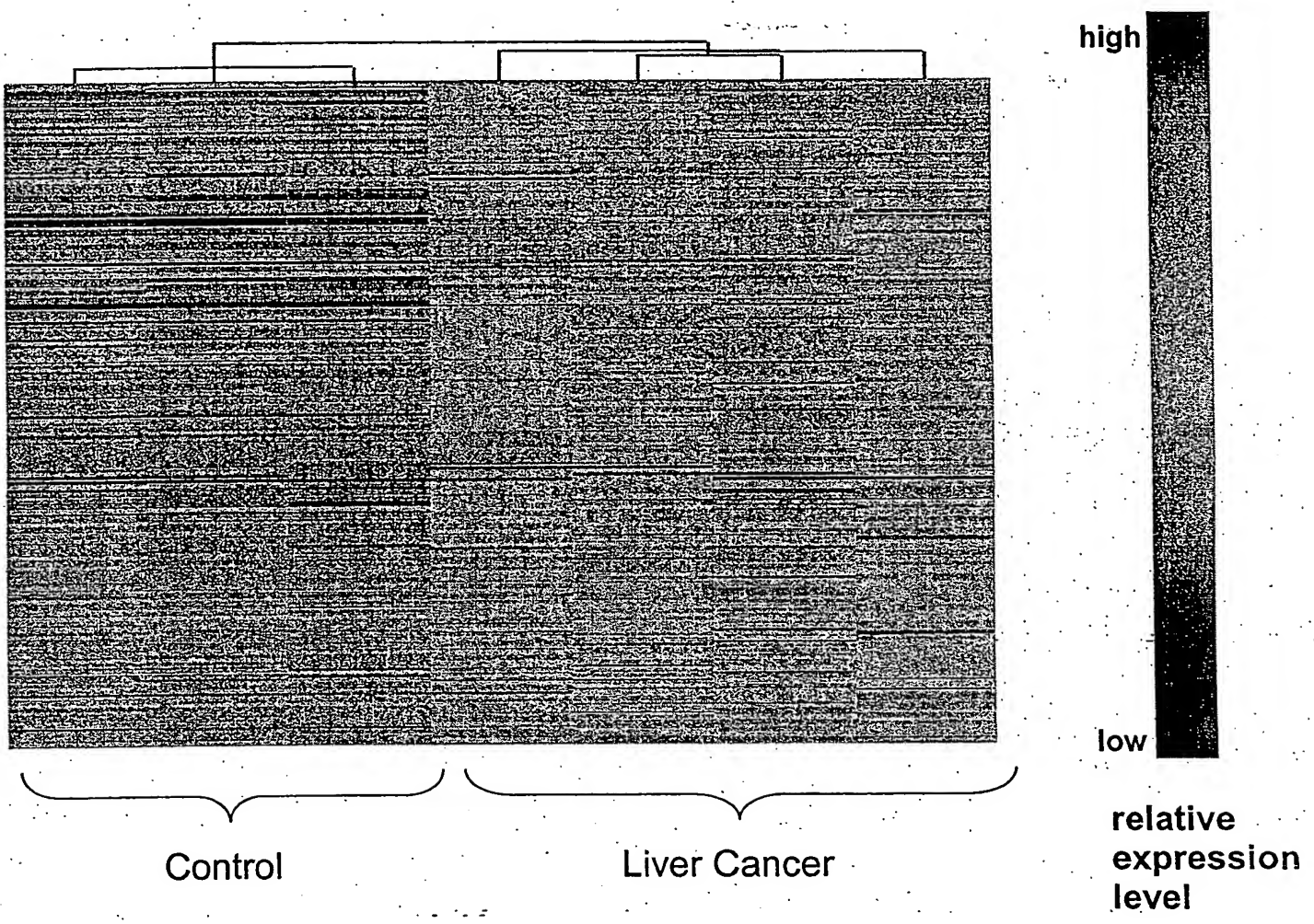


Figure 25

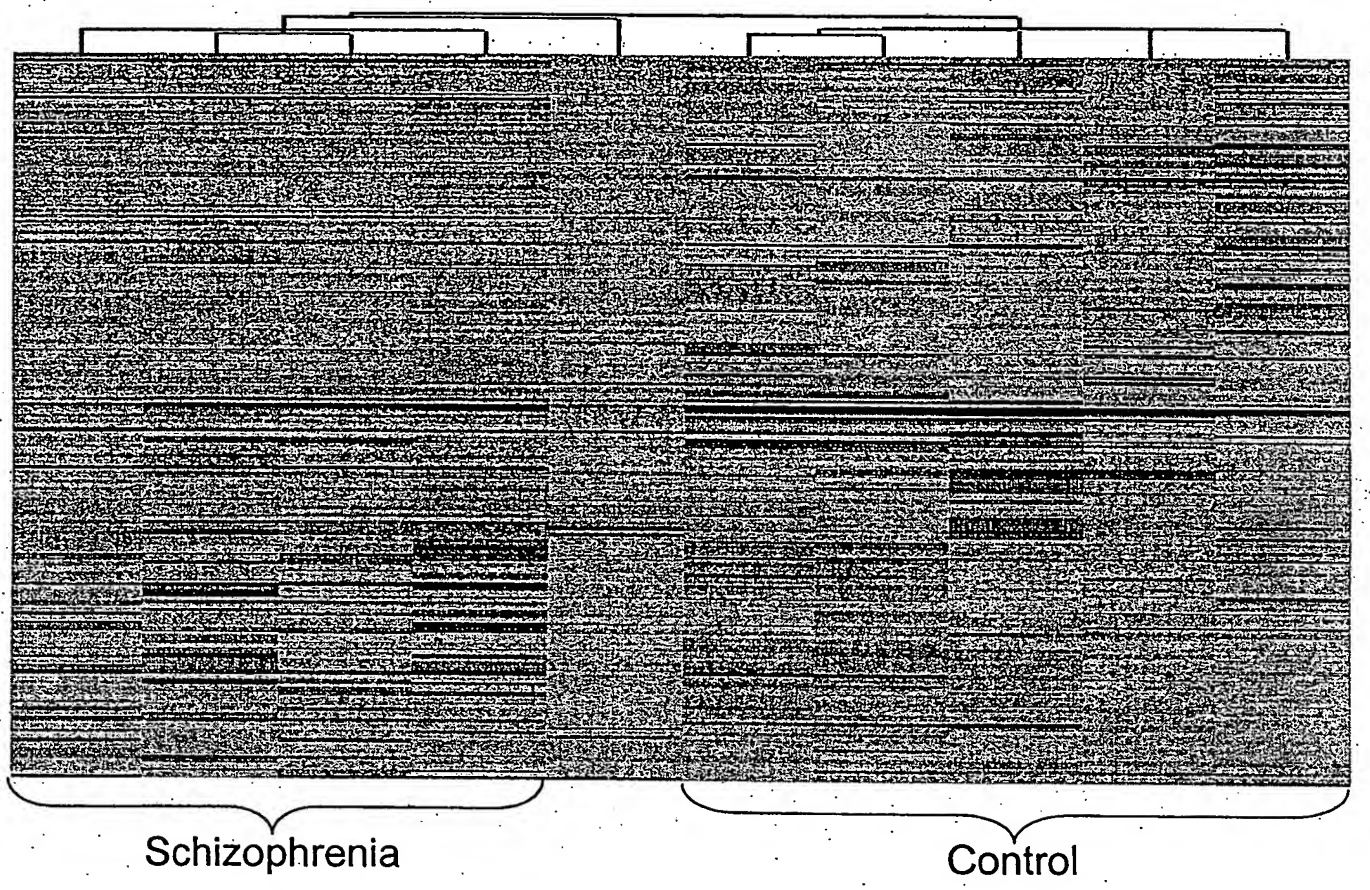
Liver Cancer



Control (red): n=3; Liver Cancer (orange): n=4

Figure 26

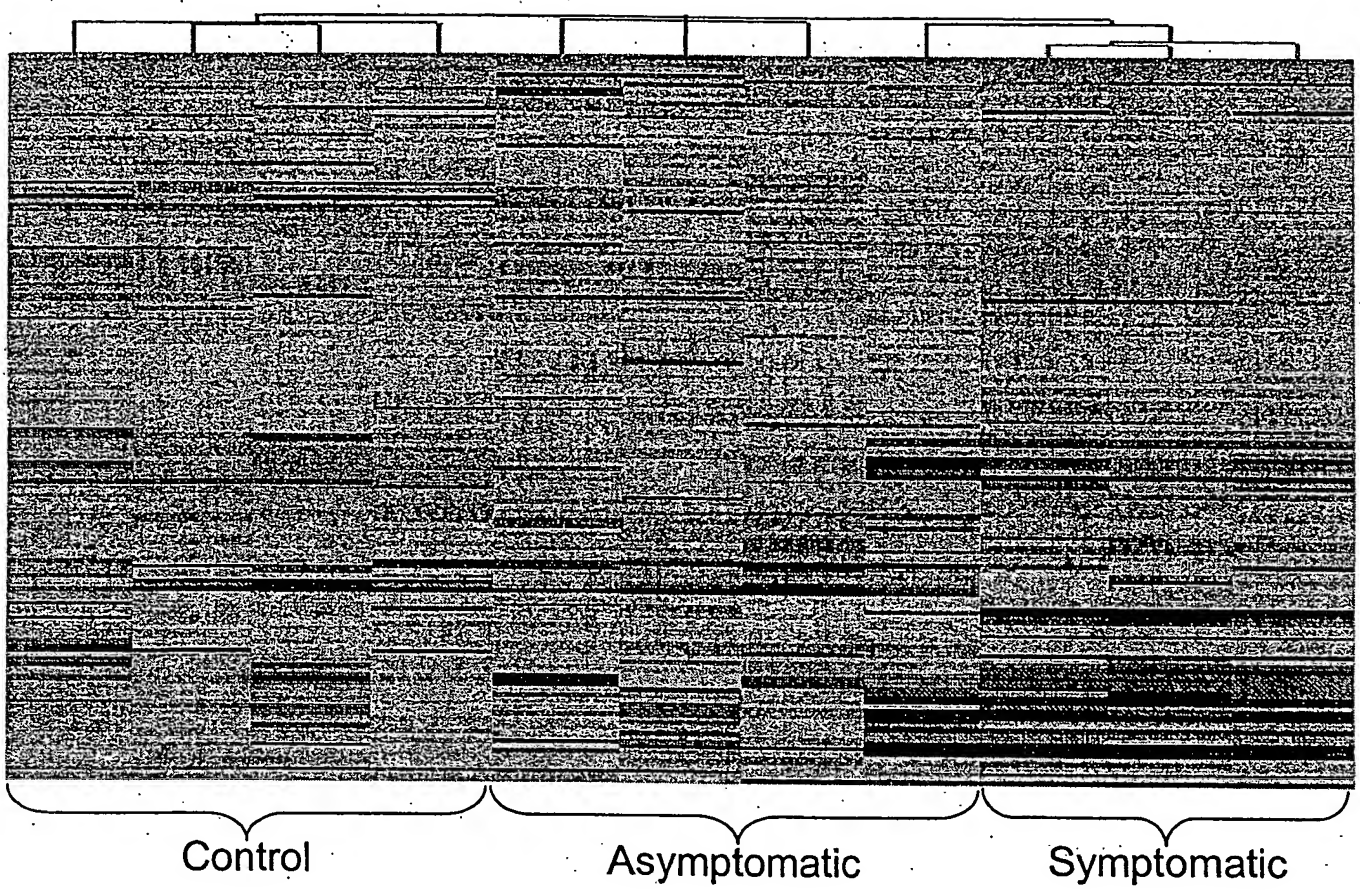
Schizophrenia



Control (red): n=6; Schizophrenia (orange): n=4

p<0.005
252 genes

Figure 27
Chagas Disease

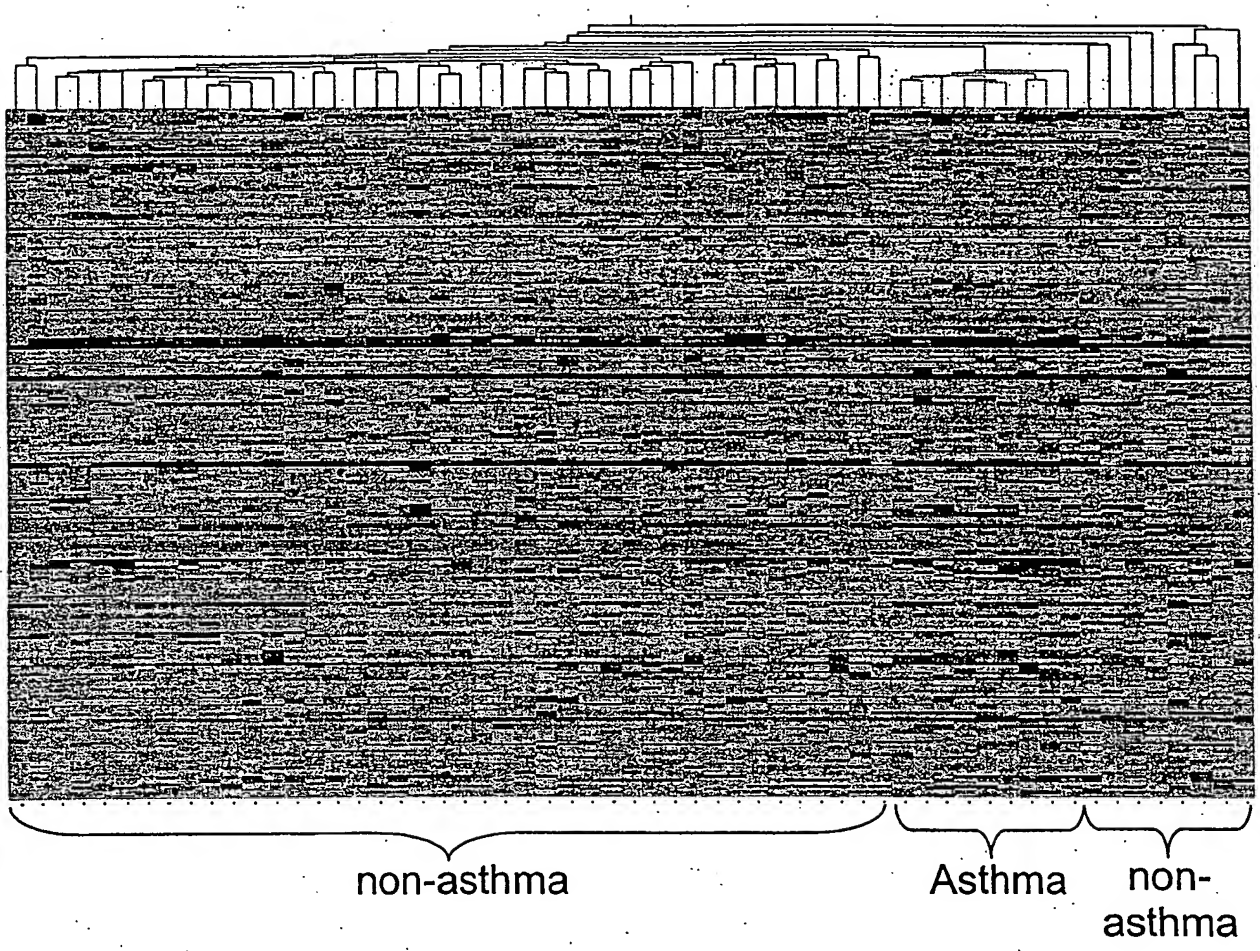


Control (orange): n=4; Chagas' asympt. (red): n=4;
Chagas' sympt. (yellow): n=3

$p<0.01$
155 genes

Figure 28

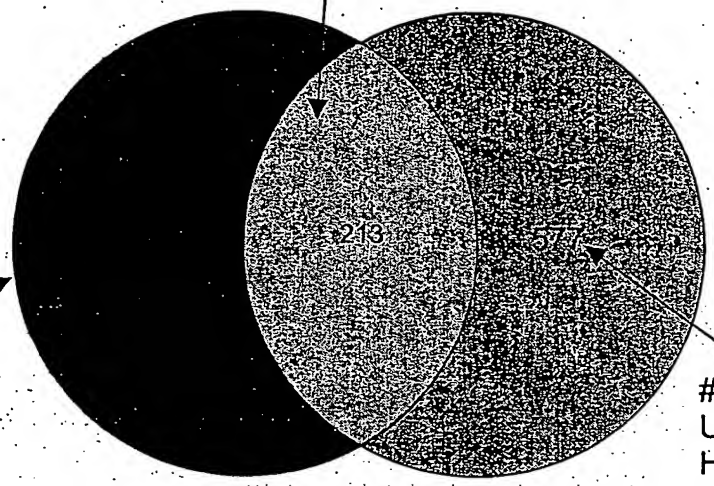
Asthma



Asthma: n=9 Non-asthma: n=50

p<0.05
219 genes

Figure 29



Intersecting Genes (Table 3Q)

Genes OA and Hypertension v. Normal (Table 3A-648+213)

Genes Unique to Hypertension (Table 3P)

Figure 30

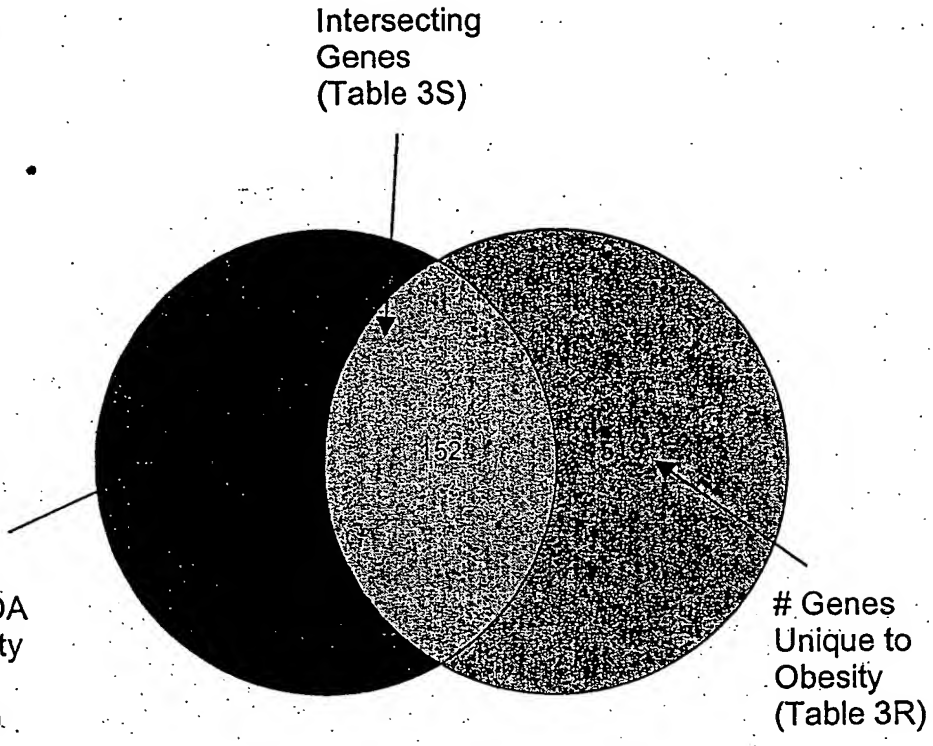

Intersecting Genes (Table 3S)
152
Genes OA and Obesity v. Normal (Table 3B)
Genes Unique to Obesity (Table 3R)

Figure 31

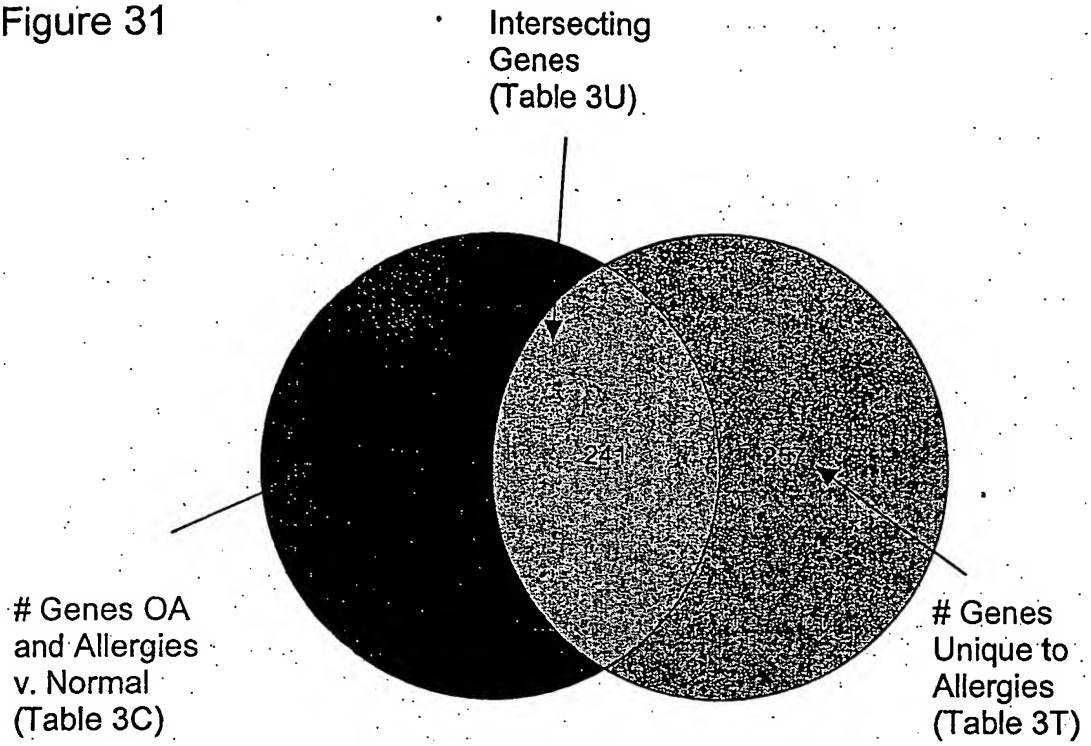

Intersecting Genes (Table 3U)
241
25
Genes OA and Allergies v. Normal (Table 3C)
Genes Unique to Allergies (Table 3T)

Figure 32

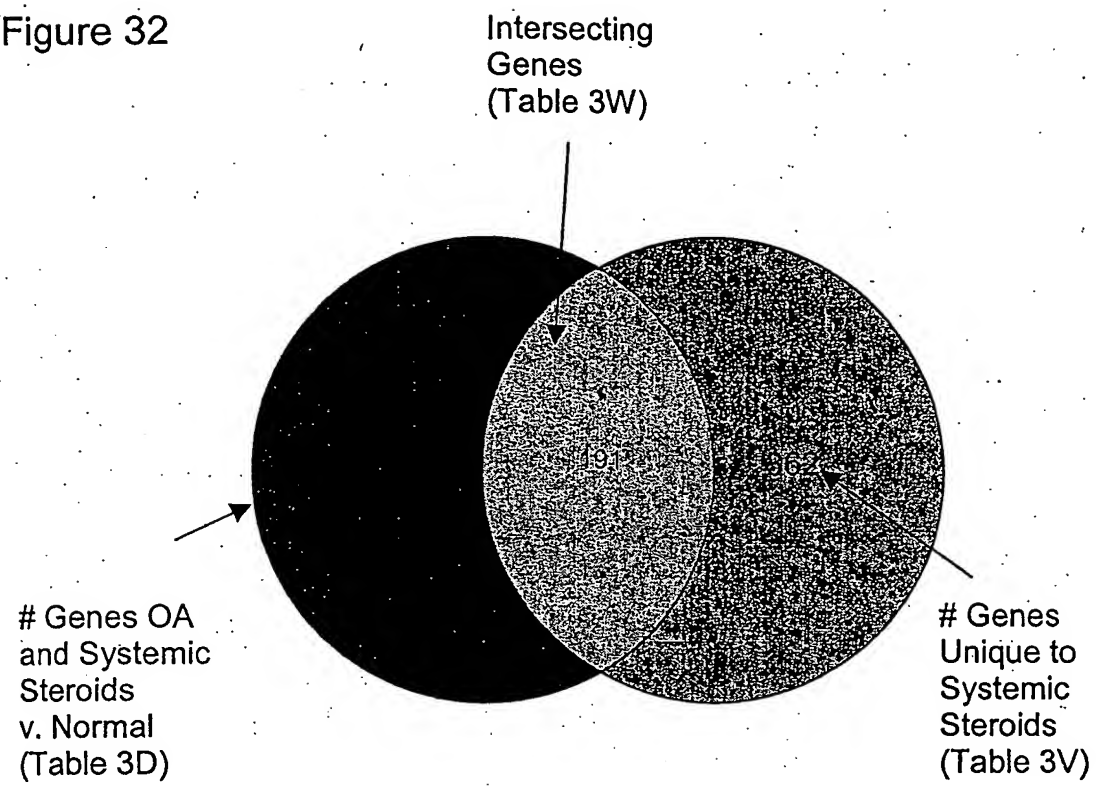
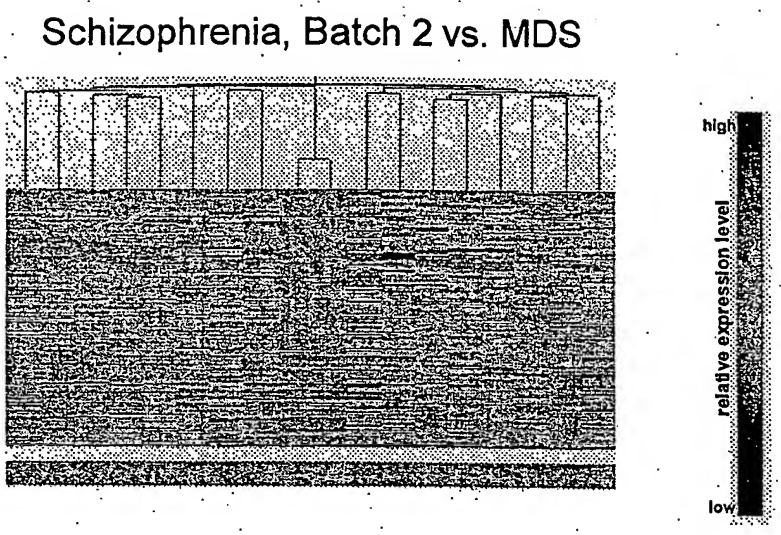

Intersecting Genes (Table 3W)
191
362
Genes OA and Systemic Steroids v. Normal (Table 3D)
Genes Unique to Systemic Steroids (Table 3V)

Figure 33



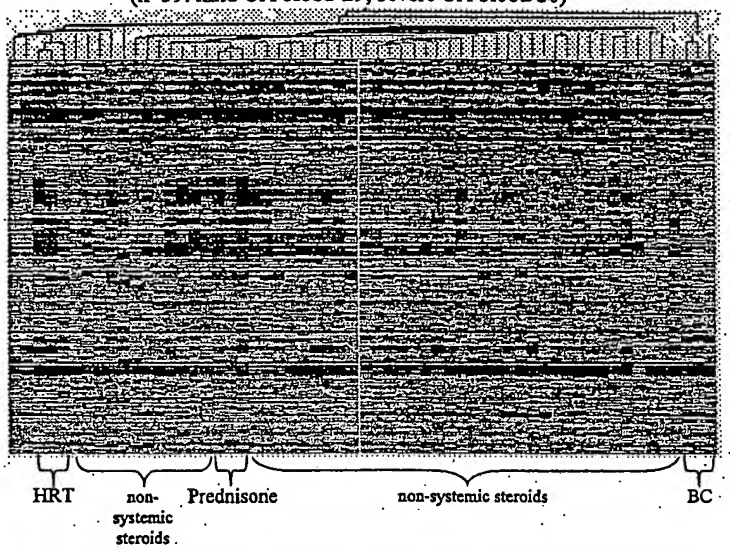
Schizophrenia (yellow): n=16; MDS (blue): n=2

p<0.05
294 genes

MDS = Manic Depression Syndrome

Figure 34

OA Blood Samples Co-morbidities Study: Systemic Steroid Groups
(n=59: mild OA blood-29, severe OA blood-30)



Systemic Steroids (n=9): 3 prednisone, 3 birth control, 3 hormone replacement therapy
Non-systemic steroids: 50
Differentially Expressed Genes ($p<0.05$): 396

HRT = hormone replacement therapy; BC = birth control